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III. *An extraordinary Case of three Pins swallowed by a Girl, and discharged at her Shoulder. In a Letter to Frank Nicholls, M. D. F. R. S. from Dr. Lysons, of Gloucester.*

To Charles Morton, M. D. Sec. R. S.

Epſom, Nov. 25, 1768.

DEAR SIR,

Read January 26, 1769. **I**NCLOSED I ſend you a moſt extraordinary caſe, which is tranſmitted to me by Dr. Lyſons, a gentleman of great learning and credit, and phyſician to the Glouceſter hoſpital. It ſeems to be exactly drawn, and the Doctor's veracity may be depended on. I think it well worth preſerving in the Memoirs of the Society ; and believe that the Council will have the ſame opinion of it as,

S I R,

Your very humble ſervant,

Fran. Nicholls.

S I R,

UPON my mentioning the case of a girl who swallowed three pins, which were afterwards discharged at her shoulder, you thought it might be proper for the Philosophical Transactions, and desired me to send it you. I have drawn it from notes taken during my attendance upon her, with as much accuracy as possible, and it is as follows.

Eleanor Kaylock, a robust, strong girl, aged twenty-two, was admitted a patient in the Gloucester infirmary, May 29, 1766, for a pain in her side proceeding from pins swallowed three quarters of a year before. The occasion of the accident was thus. Being employed in the business of a kitchen, as she was scumming the pot (her mouth being open, and three pins in it), she received a quantity of the vapour, which obliged her to swallow, and the pins at the same time passed into the *œsophagus*, where they remained for eight weeks, notwithstanding various methods were used for their removal; but they were at last forced down by the whalebone instrument used by surgeons for that purpose.

Whilst the pins were in her throat, the parts became inflamed, and swollen, which occasioned an hoarseness, attended with great pain, and difficulty of breathing: being also capable of receiving but very little nourishment, and that liquids, she was reduced to so weak a state as not to be able to get out of her bed. After the pins were removed she could swallow solids, and recovered strength sufficient to go out again to service in her former employment. She was hired as an under-servant in a gentleman's kitchen,

chen, but was soon obliged to quit her place, and apply for relief, any extraordinary motion aggravating her complaints, and occasioning violent convulsions, from which she did not recover for eight or nine hours. When she came to the infirmary, she appeared full of flesh, of a ruddy complexion, and in perfect health, excepting the following complaints.

She had a pain in her right side, below the false ribs, which she first felt immediately upon the removal of the pins from the *æsophagus*, and it continued to the time of her admission at the hospital, but was most violent when she moved the trunk of her body forwards round towards the left, or lifted up her right arm. At her admission, and from the time of the removal of the pins, the hoarseness she was troubled with soon after the pins first stuck in her throat, continued; she often spit up blood, and had a violent cough, by which, as well as by labour, or any excess of motion, the pain in her side being greatly aggravated, she was obliged to sit or fall down immediately, and could not recover herself, so as to be able to stand, in less than an hour. In these paroxysms she had always a pain in her head, was sick at stomach, and frequently brought up blood.

Whilst she was in the infirmary, the violence of the pain three times occasioned convulsion-fits, by which the *musculus rectus superior* of the right eye was so violently affected, that, notwithstanding the eye was open, yet the pupil was entirely covered by the eye-lid; and, after one of these fits, continued so for a fortnight. The left eye was also inverted in the

same manner, but the constriction was removed in a week. When these spasmodic affections left her, she did not recover her eye-sight for some days, the optic nerve being probably oppressed; but the left eye always recovered sooner than the right, being never so strongly convulsed. None of the other muscles appeared to be affected, except in the paroxysms.

While the pins were in the *æstophagus*, the surgeon was utterly at a loss where to direct his instruments, as there was no certain indication where the pins were lodged. And the physician's practice could be only palliative, using bleeding, with anodyne and lubricating medicines, according as the various symptoms occasionally required. In this manner things went on to the beginning of August, when a small painful tumour, the size of a man's thumb, appeared upon the right shoulder, which disappeared in the compass of a week without coming to suppuration. Afterwards such another small tumour appeared upon the left shoulder, which increased, and, by the care of Mr. Crump, the attending surgeon, was brought to suppuration, and opened by him, August 20, when a large table spoonful of matter was discharged. Upon removing the dressings, the next day, a larger quantity of matter flowed out, and with it issued one of the pins. Mr. Crump then examined with his probe if he could find either of the others, but could not: however, the day following, the other two pins were also discharged at the same wound. These pins were all of the same length, each measuring five quarters of an inch. The wound at which these pins were discharged was upon the superior part of the *scapula*. After the girl had received her cure, and
was

was discharged from the infirmary (which happened September the fourth), I compared her shoulder with Cowper's Anatomical Tables on the Muscles; and, as near as I can guess, the wound was upon the fleshy belly of the *trapezius*. And yet the pain in the patient's side attended her as long as the pins remained in the wound, but left her soon after they were discharged, as did also her cough, and spitting of blood. Being obliged to lead a sedentary life in the infirmary, and to keep herself as quiet as possible, her *catamenia* left her; but her spitting of blood could not be attributed to that defect, because she was very regular before her admission, and yet she had spit blood from the time the pins were removed from the *œsophagus*, which was some months before she came to the infirmary.

It would be matter of considerable satisfaction, could the exact course be ascertained which was taken by these pins, in their passage from the *œsophagus* to their exit at the left shoulder. From the cough and spitting of blood one should suppose that the lungs were injured by them. From the pain under the false ribs, it may be imagined that the diaphragm was affected. And yet from their being discharged at the shoulder it may be presumed, that neither of these parts were ever wounded; but that the pins, being forced through the substance of the *œsophagus* into the muscles of the neck and shoulder, passed thence to the part whence they were discharged.

The first symptom observable upon the removal of these pins from the passage of the *œsophagus* was, that the patient immediately felt a pain in her right
side,

side, below the false ribs, which was most violent when she turned the trunk of her body forwards round towards the left, or lifted up her right arm. Now if the pins, being forced out of the *œsophagus*, penetrated the *ferrati*, *rhomboides*, and *trapezius* muscles on the right side, this symptom must necessarily happen. For the *ferrati* being muscles of respiration, and the *ferratus superior pecticus* attached to the second, third, fourth, fifth, and sixth ribs; and the *ferratus inferior pecticus* being attached to the tenth, eleventh, and the extremity of the twelfth ribs, a pain in the side will be produced by the constant efforts of respiration. And the office of these muscles being to elevate the ribs, and draw down the arm, the pain in the side will be most sensibly felt whenever the right arm is lifted up; because then the extremities of these muscles, attached to the ribs, will be most tense. For although a wound may be given to a muscle in its most fleshy part, yet the irritation occasioned by it will exert itself most forcibly in that part where there is the greatest tension.

The *rhomboides* muscle lying upon the *ferratus superior*, and the *trapezius* being incumbent upon it, and all closely connected by the cellular membrane, they must all be in some degree affected by respiration. But the office of the *rhomboides* and *trapezius* muscles being to draw the arm downwards, and backwards, the pain in the side would be increased whenever the right arm and trunk of the body were turned forwards towards the left side.

Being thus, as we may suppose, arrived at the true cause of the pain in the side, the cough comes next under consideration. And this will be found to proceed

ceed from the same cause that the cough of a pleuritic person does, only with this difference, that in one the *pleura* and intercostal muscles are affected by an internal inflammation, by which respiration is disturbed; in the other, the malady arises from irritation caused by an extraneous body. The effects are the same in both; respiration being impeded, nature endeavours to relieve herself by a cough, which increases the irritation and inflammation of the parts obstructed; these again increase the violence of the cough: and thus, each being aggravated by the other, the lungs are often so violently agitated, that a blood-vessel bursts, and thence blood is thrown up from the lungs, as was the case in the present instance.

Whoever considers the communication between the third pair of nerves, the intercostal, the cardiac, and the recurrents, together with the other nerves dependent upon them, will easily perceive the cause of the violent spasm upon the eyes, the sickness at stomach, and the general convulsion, as being all primarily dependant upon the irritation given to the intercostal nerve on the right side. And it may be observed, that, although both the *motores oculorum* were affected, yet the right eye was convulsed most violently.

From the symptoms attending this uncommon case, it is reasonable to conclude, that the three pins were all of them at the same time forced from the *œsophagus* into the *serrati* muscles on the right side, which immediately communicated an irritation, or impulse, to the intercostal nerve, from whence arose the pain in the side, and thence the sickness at stomach, and convulsions of the eyes and other parts.

But

But whatever caused the pain in the right side, upon the removal of the pins from the *æso-phagus*, that cause continued to act until all the three pins were discharged at the left shoulder, for so long did the pain in the right side continue.

The thickness of the two *ferrati*, the *rhomboides*, and *trapezius* muscles may be thought too great for pins five quarters of an inch long to penetrate all of them at the same time. But if it be observed, that one of the pins was discharged at a time when neither of the two others could be felt with the probe, it may be supposed, that one of the three passed into the *rhomboides*, and *trapezius*, whilst the two others remained in the *ferrati*, and there continued until the first was discharged at the *trapezius*; after which they took the same course, and were discharged at the same outlet.

Thus might we give a very probable account of this extraordinary case, had the pins been discharged at the right shoulder, but they were discharged at the left. By those who think that, the nerves communicating with one another, the cause and effect produced may be on opposite sides of the body, it may be said, that the pins might be forced from the *æso-phagus* into the muscles of the left side, notwithstanding the pain was felt in the right. This will not be generally allowed. Neither can I perceive any reason why a tumor exactly resembling that from whence the pins were afterwards discharged at the left shoulder, should arise upon the right, and disperse without coming to suppuration.

Since I drew out the above account, I have seen a case nearly similar to it, recorded in the Philosophical
Transac-

Transactions, N^o 461. A small needle being lodged in a woman's left arm, about six inches below the shoulder, passed thence to her right breast, whence it was extracted many months after it first entered the body. About a month after the accident, she felt a pain above the place where the needle run in, which extended up her shoulder. It lasted there three or four days, and then returned by fits. About 17 weeks before the needle was extracted, she felt a pain at her stomach, was sick, and had reachings to vomit. These symptoms continued to afflict her (especially in the morning), until within two days of the needle being extracted, at which time she thought a pin had got into her right breast. This directed the surgeon to make an opening there, and he extracted the same needle that had entered at her arm from the part where the pricking pain was; after which she had never any return of pain in her breast, stomach, shoulder, or arm.

If, upon perusal of this case, you think it merits the attention of the curious, as corroborating the other, your recommendation of it to the Royal Society will be esteemed an honour to,

S I R,

Your much obliged,

humble servant

Gloucester, Sept. 1,
1768.

Dan. Lysons.